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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/668,559

09/22/2003

Ralf Zuber

13441 US

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EXAMINER

ONEILL, KARIE AMBER

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

11/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/668,559	Applicant(s) ZUBER ET AL.	
	Examiner Karie O'Neill	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 7-12 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7-15-04, 6-12-07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election without traverse of Group I (Claims 1-6 and 13) in the reply filed on September 7, 2007, is acknowledged. Therefore, Claims 7-12 and 14 have been withdrawn from consideration because they are drawn to non-elected claims, and Claims 1-6 and 13 are pending in this office action.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d) or (f), which papers have been placed of record in the file.

Information Disclosure Statement

3. Information disclosure statement (IDS), submitted July 15, 2004 and June 12, 2007, has been received and considered by the examiner.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 5-6 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Steck (EP 0586461 B1).

With regard to Claims 1 and 13, Steck discloses a catalyst-coated membrane, for use in a solid polymer electrolyte fuel cell, comprised of:

(a) an ionomer membrane (16), wherein said ionomer membrane comprises two surfaces (page 2 lines 13-15) and each of said two surfaces is comprised of:

(i) an active area (18, 20), wherein said active area is coated with a catalyst layer (page 2 lines 16-19), and

(ii) a passive area (page 2 lines 27-30); and

(b) at least one layer of protective film, or a gasket (12, 14), attached to each of the two surfaces of said catalyst-coated membrane (page 4 lines 45-46), wherein said at least one layer of protective film overlaps the passive area and the active area (See Figures 3-6 and page 5 lines 25-28) .

With regard to Claim 2, Steck discloses in Figure 4, wherein the passive area (16b) forms a perimeter around said active area (18, 20) (page 3 lines 52-57 and page 5 lines 29-36).

With regard to Claim 3, Steck discloses wherein 86% of the membrane is utilized as a cation exchange site with catalyst coating, and the region of the passive area that is overlapped by the protective layer is about 100%, as can be seen in any of Figures 3-6 wherein the active area is that which is covered by the catalyzed electrode (18, 20) (page 6 lines 11-15).

With regard to Claim 5, Steck discloses wherein the organic polymer material comprises a nonhydrophilic thermoplastic elastomeric material (page 3 line 36),

including a butadiene/styrene copolymer and ethylene/propylene copolymer (page 5 lines 12-15).

With regard to Claim 6, Steck discloses wherein the ionomer membrane comprises a substance selected from the group consisting of a solid polymer ion exchange membrane, typically a porous, sulfonated material (page 3 lines 35-36).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Steck (EP 0586461 B1), as applied to Claims 1-3, 5-6 and 13 above, and in further view of Spencer (WO 00/10216).

Steck discloses the catalyst-coated membrane in paragraph 5 above, but does not disclose wherein at least one layer of protective film comprises an organic polymer material with a thickness in the range of 10 to 150 microns.

Spencer discloses a catalyst coated membrane for use in a PEM fuel cell stack, the membrane being a porous fluoropolymer, such as stretched porous PTFE and ionomer resins with recurring units of $-\text{SO}_3\text{H}$ or $=\text{COOH}$ (page 9 lines 7-9), the periphery of the membrane being overlapped with a protective layer, or gasket, made of

an organic polymer material, such as elastomeric polymers, specifically polymeric structures made from PTFE (see Example 4), PVDF, PE, PP, etc. (page 11 lines 11-13). Spencer also discloses, in Example 4, wherein the protective layer, or gasket, has a thickness of 5 mils, which is equal to 127 microns (page 13). Therefore, at the time of the invention it would have been obvious to one of ordinary skill in the art to use an organic polymer protective layer with a thickness in the range of 10 to 150 microns with the catalyst-coated membrane of Steck, because Spencer teaches providing a fluid tight seal between the MEA and gas diffusion layer and to minimize the quantity of the more expensive ionomer composite and electrocatalytic materials that would otherwise be used in the gasketing material (page 6 lines 6-10).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karie O'Neill whose telephone number is (571) 272-8614. The examiner can normally be reached on Monday through Friday from 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Karie O'Neill
Examiner
Art Unit 1795

MARK RUTHKOSKY
PRIMARY EXAMINER

MR Ruthkosky
11-19-07

KAO